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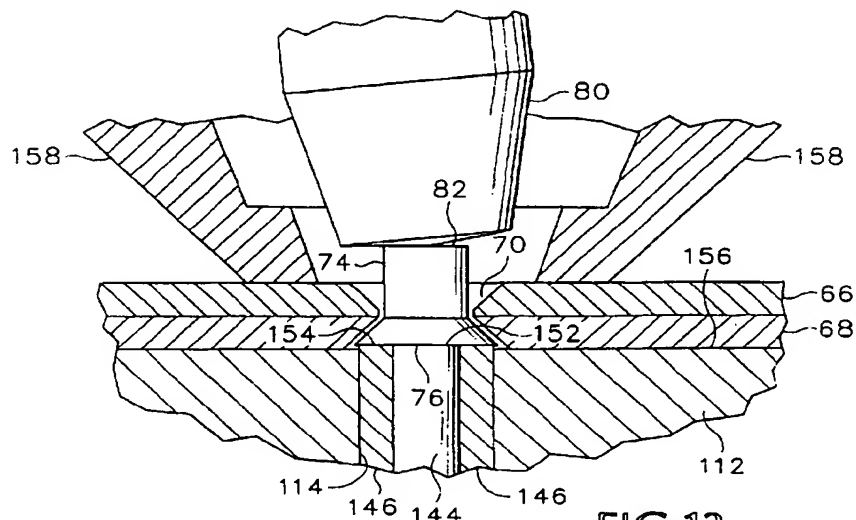
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### (54) Method and apparatus for forming rivet joints

(57) A method and apparatus (20, 90) for forming rivet joints that allow pivotal motion of the parts interconnected by such joints with a desired amount of clearance (86). Parts (66, 68) to be riveted together are aligned with each other and held in place on a parts support anvil (24, 96), and a rivet (74) is placed into aligned holes (70, 72). A rivet support anvil (38) is positioned against the

head (76) of the rivet to establish an initial condition. The rivet support anvil is adjusted a required amount with respect to the parts support anvil prior to formation of the second head (84) on the opposite end of the rivet. The rivet is allowed to move a controlled amount prior to formation of the second head, to provide the desired amount of clearance.



**FIG.13**

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# EUROPEAN SEARCH REPORT

Application Number  
EP 98 30 5573

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 344 906 A (GEN ELECTRO MECH CORP) 6 December 1989 (1989-12-06)	25-28	821J15/10
A	* column 3, line 46 - column 4, line 17; figures 1-10 *	1, 14, 15, 19	821J15/12 821J15/02
X	EP 0 330 341 A (TEXTRON INC) 30 August 1989 (1989-08-30)	25-28	
A	* column 7, line 22 - line 48; figures 1-6 *	1, 14, 15, 19	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			821J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 30 May 2000	Examiner Marc Augé
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (3.02) (Pulc01)

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 98 30 5573

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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EPO FORM P4459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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A DOCPHOENIX

# APPL PARTS

IMIS
Internal Misc. Paper
LET
Misc. Incoming Letter

371P  
PCT Papers in a 371 Application

A...  
Amendment Including Elections

ABST  
Abstract

ADS  
Application Data Sheet

AF/D  
Affidavit or Exhibit Received

APPENDIX  
Appendix

ARTIFACT  
Artifact

BIB  
Bib Data Sheet

CLM  
Claim

COMPUTER  
Computer Program Listing

CRFL  
All CRF Papers for Backfile

DIST  
Terminal Disclaimer Filed

DRW  
Drawings

FOR  
Foreign Reference

FRPR  
Foreign Priority Papers

IDS  
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NPL  
Non-Patent Literature

OATH  
Oath or Declaration

PET.  
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RETMAIL  
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SEQLIST  
Sequence Listing

SPEC  
Specification

SPEC NO  
Specification Not in English

TRNA  
Transmittal New Application

## OUTGOING

CTMS
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1449  
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APDEC  
Board of Appeals Decision

APEA  
Examiner Answer

CTAV  
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CTEQ  
Count Ex parte Quayle

CTFR  
Count Final Rejection

CTNF  
Count Non-Final

CTRS  
Count Restriction

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M903  
DO/EO Acceptance

M905  
DO/EO Missing Requirement

NFDR  
Formal Drawing Required

NOA  
Notice of Allowance

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Petition Decision

## INCOMING

AP.B  
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C.AD  
Change of Address

N/AP  
Notice of Appeal

PA..  
Change in Power of Attorney

REM  
Applicant Remarks in Amendment

XT/  
Extension of Time filed separate

### Internal

SRNT  
Examiner Search Notes

CLMPTO  
PTO Prepared Complete Claim Set

ECBOX  
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WCLM  
Claim Worksheet

WFEE  
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### File Wrapper

FWCLM  
File Wrapper Claim

IIFW  
File Wrapper Issue Information

SRFW  
File Wrapper Search Info

